ANALYSIS OF PERFORMANCE OF CLASSIFICATION OF FORWARD-SCATTERING RADAR (FSR) IN A CLUTTERED ENVIRONMENT

MUHAMMAD NAJMI AFIQ BIN YAHYA

FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITY TEKNOLOGI MARA
MALAYSIA

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ABSTRACT

Forward Scattering Radar (FSR) has been used in today's modern technology to obtain information from the target. The information can be in various forms such as speed, altitude and many other parameters. It has become one of vital technology in its application. However, in basic communication theory, it is difficult and impossible to receive an ideal information as the presence of interference from the surrounding will disrupt the content of original signal. As far as this project is concerned, clutter plays an important role in causing massive distortion to the reflected signals obtained from the targeted object. Apart from that, the classification accuracy from the database share the similar problem due to interference occurred.

This thesis presents the analysis results of the effect of clutter to the radar data dispersion. The presence of clutter from the environment may cause errors in the target detection and classification in forward scattering radar (FSR). This project is done via simulation by using a software called MATLAB. The algorithm of classification database has been done by a researcher. The implementation of different level of Signal-to-Clutter Ratio (SCR) is used in order to observe the effect of clutter to the data dispersion and classification accuracy on the database.

TABLE OF CONTENTS